

E2 | CONTESTATIONS CONCERNING MANAGEMENT OF SEVERE ACUTE MALNUTRITION IN INDIA

Introduction

An estimated 800 million people suffer from hunger every year in the world, mostly in the developing countries of the South (United Nations, 2015). Hunger adversely and disproportionately impacts those who live on the margins of society. It is estimated that it would require an average US\$ 267 billion per year to end hunger in the world by 2030 (ibid.). More importantly, it will require commitment, determination and an enhanced political will on the part of governments, with increased focus on policies of social protection.

In this chapter we use the term malnutrition to refer to ‘undernutrition’, though ‘overnutrition’, i.e. overweight and obesity (usually primarily as a result of excess intake of sugars and fats), which is a growing phenomenon in many parts of the world, would also be termed malnutrition. A quarter of all children in the world, mostly in the global South, are undernourished, which increases their chance of death and undermines their potential to learn.



Image E2.1 Mid-day meal programme in a school in India. Such programmes miss the most vulnerable 0–3 age group (Sulakshana Nandi)

Undernutrition is directly linked to poor outcomes in infant and young child health, and is associated with an increased risk of later development of obesity, diabetes and heart disease.

While the Indian economy has been one of the fastest growing economies in the world, with an average growth rate in excess of 6 per cent between 2001 and 2016, the country is also home to the largest number of malnourished children in the world. The Global Hunger Index (GHI) report of 2016 placed India in the 97th position, six notches below Rwanda, which was ravaged by a bloody civil war in the 1990s (Von Grember, 2016). India is among the 20 countries worst affected by hunger in the world, part of a list that includes so-called ‘failed states’ like Afghanistan, Sierra Leone, etc. (ibid.). The India State Hunger Index (ISHI) shows considerable variations in severity of hunger among various states. Recent data indicate that 32 per cent of children under the age of five are stunted (low height for age, reflecting chronic undernutrition) and 29 per cent are underweight (low weight for height reflecting acute undernutrition) (NATIONAL FAMILY HEALTH SURVEY 2015–2016, 2016). While the state of Punjab recently had a hunger index of 13.6, the state of Madhya Pradesh had an index of 30.9 (Menon, Deolalikar and Bhaskar, 2009). Even the best performing state, Punjab, if considered to be a country would be ranked 34th in the GHI 2008 rankings (ibid.). In the worst performing states such as Bihar, Madhya Pradesh and Meghalaya more than 40 per cent of children are stunted.

Tackling malnutrition: the Indian experience

There are two (often contending) streams of thought regarding malnutrition in India:

1. Malnutrition is a medical emergency, which may result in fatality, and which therefore requires specialized treatment under expert care. Treatment of ‘uncomplicated’ cases is provided through specially designed products called ‘Ready to Use Therapeutic Foods’ (RUTF), which are standardized in their composition and include essential micronutrients. This is a view that is promoted largely by experts in clinical management of malnutrition.
2. Malnutrition is the outcome of socioeconomic and political inequities. Malnutrition has to be managed in all its stages and manifestations, with a strong focus on the ‘root causes’. The processes and products used to address malnutrition need to reflect this overall approach. This view is largely promoted by public health experts.

However, the first approach has come to be regarded as the principal strategy in managing malnutrition. The alarming situation of malnutrition in India demands a comprehensive approach that addresses the needs both of those children who are malnourished and require treatment, as well as preventing

much larger numbers with moderate malnutrition from deteriorating further (Prasad and Sinha, 2015). Unfortunately, the approach followed has been informed by a biomedical rather than public health perspective, where malnutrition is often treated without considering its broader social determinants, amongst which household food insecurity dominates.

Efforts to mitigate food insecurity for children in India are primarily channelled through the Integrated Child Development Scheme (ICDS), under the Ministry of Women and Child Development. As part of the scheme, an '*Anganwadi*' or child care centre is established for every 1,000 children between the age of 0 and 3 years. The '*Anganwadi*' provides nutritional supplements and pre-school education. However, the programme has been unable to reach children under the age of 2 years, even though it is widely recognized that this is the age group most critical for intervention (Prasad and Sinha, 2015).

Nutritional Rehabilitation Centres (NRCs) have been established after the rolling out of the National Rural Health Mission (NRHM, 2005) to treat children with Severe Acute Malnutrition (SAM). Experience, however, has shown that NRCs are unable to cope with the large numbers of children suffering from malnutrition and are largely ineffective in addressing the problem. There are serious discrepancies in protocols in the management of SAM between NRCs and ICDS (Prasad, Sinha and Sridhar, 2012) creating operational problems. Families are also unwilling to admit children in the NRCs (often situated far from their homes) for prolonged periods of time. The NRCs treat the children as medical emergencies and do not offer any comprehensive system of prevention or continuity of care (ibid).

RUTFs and conflicting commercial interests

Over the recent past interventions promoted by international agencies such as UNICEF and MSF to address malnutrition have centred on specialized products termed Ready to Use Therapeutic Foods (RUTF). In some settings RUTFs have greatly increased the survival of children aged 6 months to 5 years suffering from severe acute malnutrition (SAM), especially during emergencies (Bazzano, Potts, Bazzano and Mason, 2017). RUTFs are easier to prepare and distribute during nutritional emergencies. They do not require water for preparation, are shelf-stable for 2 years and are generally palatable for children with an appetite (Bazzano, Potts, Bazzano and Mason, 2017). All these factors have led to a surge in the demand for RUTFs in low and middle income countries (LMICs). Production facilities have sprung up across the developing world. These production facilities have emerged not only to meet emergencies, but, increasingly, for supplementation of pregnant women and young children who are not severely malnourished. This increased use of manufactured, commercial products for the treatment and prevention of undernutrition is of great concern since there is a lack of evidence for their long-term health impacts. UNICEF itself has stated that care should be taken to ensure that the



Image E2.2 Plumpy'nut (By Flickr user mastermaq - Flickr image 2874479122; License: CC BY-SA 2.0, <https://commons.wikimedia.org/w/index.php?curid=7050129>)

RUTFs do not replace nutritional best practices and consumption of normal household foods (UNICEF, Position Paper: Ready-To-Use Therapeutic Food for Children with Severe Acute Malnutrition in UNICEF, 2013).

RUTFs were first commercially produced by the French manufacturer Nutriset and were marketed as 'Plumpy'Nut'. It can be used in places where large numbers have to be fed and health resources are strained. Nutriset patented the product and founded 'Plumpy'Field', a network of Plumpy'Nut manufacturers established through a franchise model. Subsequently many 'Plumpy'Field' factories have been established in countries where the product is needed and locally sourced foods are often employed in its production. After a prolonged advocacy campaign, Nutriset made its patent available in the developing countries, so that generic variants of 'Plumpy'Nut' could be produced. Often, however, the RUTFs do not use locally sourced ingredients, nor does production occur in the end user countries. (Bazzano, Potts, Bazzano and Mason, 2017)

The entry of the private sector has resulted in commercial interests coming into conflict with the public health challenges that RUTFs were originally supposed to address. Edesia, which has the franchise rights for the production of Plumpy'Nut in the USA was set up by a person who has no background in nutrition or public health. It ostensibly operates as a 'Not for Profit' but its website mentions "strategies" to achieve "profit objectives, secure 'new business opportunities' and "penetrate" new markets (EdesiaNutrition, 2017). Similarly, Abbott Nutritionals, makers of infant milk formulas have built a production facility as a 'donation' to Partners in Health to produce 'Norimanba',

a RUTF in Haiti (Partners In Health, 2017). The increase in producers of RUTF has coincided with a parallel expansion in the development of RUTFs for consumption by populations that do not suffer from SAM. Nutriset itself has expanded and diversified its range to products like ‘Plumpy’Sup’ (Supplementary nutrition for stunted children), Plumpy’Mum’ (Supplementary food for pregnant and lactating women), ‘Plumpy’Doz’ (Micronutrient enriched supplementary food), etc. (PlumpyField, 2017).

Another example of conflict of interest is Valid Nutrition, a company based in Ireland. Valid calls itself a ‘not for profit’ enterprise, while counting former Unilever executives on its board of directors. The company has a factory in Malawi producing RUTFs. Now it has plans to tie up with Amul, India’s largest milk brand, to produce RUTFs and also expand its product lines beyond RUTFs to complementary and supplementary foods. The company clearly states that it seeks to profit from selling “low cost nutritional products” (Valid Nutrition, 2017). These product-based ‘solutions’ being offered to combat undernutrition fail to address issues regarding prevention of malnutrition, continuity of care, sustainability, impact on local food systems and economies or even efficacy (Sachdeva et al., 2016).

Lack of support to caregivers, women in particular, is a primary determinant of child malnutrition. Gender-based discrimination in Indian society contributes significantly to incidence of ill health and malnutrition in women (NFHS 4). It is these women that not only go on to bear children, often with low birth weight, but are also charged with rearing them, often single-handedly and, in particular, feeding them. While acknowledged in various frameworks for managing malnutrition, such societal issues have not been problematized or prioritized for intervention. Although “UNICEF supports community-based management of acute malnutrition with ready-to-use therapeutic foods (RUTF)...and sees it as one part of a medical protocol that should only be used as part of the community-based management of acute malnutrition in children, in accordance with international standards for such care”(UNICEF, READY-TO-USE THERAPEUTIC FOOD FOR CHILDREN WITH SEVERE ACUTE MALNUTRITION, 2013) in reality, UNICEF’s practice of Community based Management of Acute Malnutrition (CMAM), tends to medicalize its management and minimizes the importance of community participation and ownership:

Addressing malnutrition in the Indian context

It has been argued that the type and context of malnutrition in India is substantially different from that seen in humanitarian emergencies in Africa, from where strategies involving use of RUTFs have largely been drawn. (Dasgupta, 2014). Direct evidence is rapidly accumulating to substantiate this contention. Recent data, based on the National Family Health Survey (NFHS 4) confirms the fact that the quality of diets in India is abysmally

Box E2.1: Community-based nutrition programme: an alternative

Practitioners have been attempting to create models of community-based management of malnutrition that take into account the elements of prevention, care, treatment and community participation; and use local resources and food sources. One such attempt incorporates a comprehensive community-based programme involving child care services, participatory learning and action, mobilization of women and social audit. The programme, Action Against Malnutrition (AAM), is designed and implemented by a consortium of organizations: the Public Health Resource Network (PHRN), Ekjut, Child In Need Institute (CINI), Chaupal and IDEA. The programme is being implemented in seven blocks covering four states of India: Jharkhand, Odisha, Bihar and Chhattisgarh. The three key components of the programme are: Creches for child care services, Participatory Learning and Action (PLA) for community mobilization and action, and systems strengthening (Prasad and Sinha, 2015).

1. **Creches:** It is well known that women from marginalized and deprived communities face a triple burden: child care, household chores and wage work. This compromises a mother's ability to attend to the child, increasing the risk of undernutrition. Therefore, the creche component of the programme addresses this challenge and provides a framework for overall child care with emphasis on prevention of malnutrition. The creches provide safety, learning through play, appropriate feeding, growth monitoring and access to health and referral care. The programme is available to every child in the village irrespective of the level of malnutrition, thus adhering to the principle of universality of care. Within this, special attention is given to those children who exhibit growth faltering so that they do not deteriorate further and become severely malnourished. The programme ensures continuity of care by enabling referral to government institutions. It lays equal stress on community processes and participation while maintaining technical rigour in the identification of cases of malnutrition and their management.
2. **Participatory Learning and Action (PLA):** Under this, regular meetings are held in the community, primarily with women. At the same time the meetings also involve the participation of men, community leaders and elected representatives. The meetings discuss issues of child malnutrition, child care, government schemes and programmes, etc. The motive is to build community consensus for the programme, find local solutions to tackle the problem of malnutrition and use collective pressure to improve services.

3. **Systems Strengthening:** This component aims to identify critical gaps in the implementation of government interventions to address malnutrition. AAM works in close coordination with the frontline workers of public health programmes, and district and block level government officials, to ensure that services provided by the government reach the intended beneficiaries.

The outcomes from the programme have shown that, while a medicalized approach may yield short term results in tackling malnutrition, a comprehensive participatory approach provides better access, sustainability and continuity of care at lower costs, with fair outcomes (Prasad and Sinha, 2015). A study was conducted to analyse the outcomes of the intervention among tribal children (Prasad and Sinha, 2015). A cohort of 587 children was taken and was studied for the change in the status of stunting and wasting for a period of four to six months from May 2013 to November 2013. It was seen that there was an increase in the proportion of children in the non-wasted category from 72 per cent to 80 per cent. There was a significant reduction in the percentage of children with Severe Acute Malnutrition (SAM / severe wasting) from 8 per cent to 4 Per cent. It was also observed that there was a significant increase in the proportion of children in the non-underweight category from 43 per cent to 49 per cent and reduction in the severely underweight from 24 per cent to 17 per cent.

66.6 per cent of children saw an improvement in their Z score (Z score is the measure of deviation from normal), with over 80 per cent being classified as normal or improving grades. The average Weight for Height Z-score (WHZ) – an index of wasting or excessive thinness – of the children improved from -1.41 to 1.13 during the 4–6 month period. Over 80 per cent of children with SAM improved with approximately 40 per cent achieving normalcy (cure) (Prasad V. e., 2014) and the rest shifting to moderately acute malnutrition. In another series with a larger number of children with SAM followed for a longer period, similar gains were found to be sustained and even enhanced over time (Under review for publication). A formal evaluation of the project has also shown fair results that await publication. Further, cost-benefit analyses suggest that such programmes are highly cost effective by WHO standards (Under review for publication).

There have been other potential positive spin-offs from the programme such as an increase in women's earnings due to the availability of child care, increased awareness about nutritional practices and hygiene, emergence of a micro market for foodstuffs like eggs and a prevention of the "food-drug" confusion, which may have arisen had the intervention been based on commercially produced RUTF. (Prasad e., 2014).

poor for a large majority, and is largely related to poverty and food insecurity, while there may be some elements of lack of information (NATIONAL FAMILY HEALTH SURVEY 2015–2016, 2016). Lack of protein is significant along with lack of micronutrients which are also present in many sources of protein, specially eggs and meat. Simultaneously, even as many poorer communities are culturally inclined to be non-vegetarian there is a political and social push to declare India as a largely vegetarian state – even though over 70 per cent of the country population consumes foods of animal origin such as meat and fish (NFHS 4). The push for ‘vegetarianism’ has gained traction following the installation of a socially conservative government in 2014. In recent years ‘*Gaurakshaks*’ (cow protectors) have wreaked havoc across North India, specifically targeting Dalits (so called ‘lower caste’ communities in India who traditionally consume meat) and Muslim communities, who often rely on relatively cheap sources of protein obtained from beef and buffalo meat (compared to poultry or goat meat).

A randomized controlled trial has been conducted by research agencies in India which compares the relative efficacy of three different nutritional products: commercial RUTF, locally produced RUTF and augmented home foods, all mandated by the Government (Bhandari, 2017). The trial showed that the use of commercial RUTF has an impact equivalent to that of augmented home foods. However, locally produced RUTF (identical in composition to commercial RUTF) is seen to be superior for inexplicable reasons. It also shows that even in the best-case scenario of local RUTF, over 40 per cent children fail to recover even after a 4-month period of intervention. Recovery rates across all arms fell to 15 per cent within the next four months after the intervention stopped. The study also noted that satisfactory results could not be achieved without the additional intervention of providing for a paid worker to supervise feeding at household level eight times a day. Paradoxically, the study goes on to advocate the use of RUTF, which seems to go against its own evidence. (Prasad, Reading between the lines of RUTF trials, 2017).

Conclusion

As a result of pressure from civil society organizations such as the International Baby Food Action Network (IBFAN) and People’s Health Movement (PHM), UNICEF has reluctantly acknowledged that in ‘certain contexts’ other strategies may also be tried. This is reflected in the following statement:

“In specific settings where there is provision of adequate resources, the treatment of SAM is based on a therapeutic diet using locally available nutrient-dense foods prepared by the carer at home, without the use of commercially produced products such as RUTF. UNICEF acknowledges that some regions adopt this approach to managing SAM as they believe it be more sustainable and better suited to the country” (Revised UNICEF document for Codex Committee on Nutrition and Foods for Special Dietary Uses – CCNFSDU)

However, it is a matter of concern that UNICEF has announced 13 pilots across 13 states of India, most of which, it is understood, intend to or are already using commercial RUTF. It appears that the push for evidence-based policy making and programming only holds if the evidence is convenient to a particular view – that of reducing food insecurity and malnutrition to a technical issue and seeing it as a medical problem requiring a nutraceutical solutions. Compelling evidence, nonetheless, points to the efficacy and sustainability of comprehensive community based nutrition programmes that incorporate the use of locally devised solutions.

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